

**IN THE CLAIMS:**

1. – 34. (CANCELLED).

35. (CURRENTLY AMENDED) A layer three device for connection to a computer network having ~~at least one~~ a server that assigns Internet Protocol (IP) addresses, the layer three device having a plurality of interfaces each representing a logical connection to the computer network, the layer three device comprising:

a message transmitter connected to the computer network; and

a message receiver connected to the computer network,

wherein the message transmitter is configured and arranged to formulate and broadcast a discover message from an interface of the layer three device that provides connectivity via the network to the server, the discover message indicating that the layer three device is requesting assignment of one or more ~~Internet Protocol (IP)~~ addresses for an interface lacking connectivity to the ~~at least one~~ server, and the message receiver is configured and arranged to receive and examine an offer sent by the ~~at least one~~ server, that includes at least one or more proffered IP addresses for assignment to the interface lacking connectivity to the ~~at least one~~ server.

36. (CURRENTLY AMENDED) A layer three device as defined in claim 35 wherein the message transmitter is configured and arranged to formulate and send to the server a request message, in response to the offer, indicating that the layer three device has accepted the proffered one or more IP addresses for the respective interface and the message receiver is configured and arranged to receive and examine an acknowledgment from the ~~at least one~~ server that confirms the ~~at least one~~ server's receipt of the request message.

1 37. (CURRENTLY AMENDED) A layer three device as defined in claim 35 wherein  
2 the discover message contains an option that is marked by the layer three device to  
3 indicate that the layer three device is requesting assignment of one or more IP addresses  
4 for an interface lacking connectivity to the ~~at least one~~ server.

1 38. (CURRENTLY AMENDED) A layer three device as defined in claim 35 wherein  
2 the offer contains an option that is marked by the ~~at least one~~ server to indicate that the  
3 corresponding message contains one or more proffered IP addresses for assignment to the  
4 interface lacking connectivity to the ~~at least one~~ server.

1 39. (PREVIOUSLY PRESENTED) A layer three device as defined in claim 35 wherein  
2 the offer includes a variable length IP address bearer option.

1 40. (PREVIOUSLY PRESENTED) A layer three device as defined in claim 35 wherein  
2 the offer message includes a routing parameter option.

1 41. – 45. (CANCELLED).

1 46. (CURRENTLY AMENDED) A computer readable medium comprising computer  
2 executable instructions for:

3 broadcasting a discover message only from an interface of a layer three device  
4 that provides connectivity via the network to a server that assigns Internet Protocol (IP)  
5 addresses, the discover message indicating that the layer three device is requesting  
6 assignment of one or more ~~Internet Protocol (IP)~~ addresses for an interface lacking  
7 connectivity to the server;

8 receiving an offer message, in response to the discover message, the offer  
9 message including at least one or more proffered IP addresses for assignment to the  
10 interface lacking connectivity to the server;

11 sending a request message, in response to the offer message, the request message  
12 indicating that the layer three device has accepted the proffered one or more IP addresses  
13 for the interface lacking connectivity to the server;

14 receiving an acknowledgment, in response to the request message, confirming  
15 receipt of the request message; and

16 committing the accepted IP address at the interface lacking connectivity to the  
17 server of the layer three device in response to the acknowledgment.

1 47. – 48. (CANCELLED)

1 49. (PREVIOUSLY PRESENTED) A layer three device as defined in claim 35 wherein  
2 the layer three device is an intermediate device operating at the network layer of a  
3 communication protocol stack implemented within the computer network.

1 50. (PREVIOUSLY PRESENTED) A layer three device as defined in claim 49 wherein  
2 the intermediate device is a router.

1 51. (CURRENTLY AMENDED) A layer three device as defined in claim 35 wherein the  
2 message transmitter is further configured and arranged to formulate and broadcast a  
3 discover message from the interface lacking connectivity to the ~~at least one~~ server, the  
4 discover message requesting assignment of one or more IP addresses for the interface  
5 lacking connectivity to the ~~at least one~~ server, and wherein the message receiver is further  
6 configured and arranged to verify that an offer is not received in response to the discover  
7 message from the interface lacking connectivity to the ~~at least one~~ server.

52. (CURRENTLY AMENDED) A layer three device as defined in claim 35 wherein the offer sent by the ~~at least one~~ server includes a subnet mask for use with the interface lacking connectivity to the ~~at least one~~ server.

53. (CURRENTLY AMENDED) A layer three device as defined in claim 35 wherein the offer sent by the ~~at least one~~ server includes, for each proffered IP address, a corresponding lease time indicating a life of the respective proffered IP address.

54. (CURRENTLY AMENDED) A method comprising:

broadcasting a discover message from an interface of a layer three device that provides connectivity to a server that assigns Internet Protocol (IP) addresses, the discover message indicating that the layer three device is requesting assignment of an ~~Internet Protocol~~ (IP) address for an interface of the layer three device lacking connectivity to the server;

receiving an offer message from the server, on the interface that provides connectivity to the server, the offer message including a proffered IP address for assignment to the interface lacking connectivity to the server; and

assigning the proffered IP address to the interface of the layer three device lacking connectivity to the server.

55. (PREVIOUSLY PRESENTED) The method as defined in claim 54 further comprising:

sending a message, in response to the offer message, the message indicating that the layer three device has accepted the proffered IP address for the interface lacking connectivity to the server; and

6 receiving an acknowledgment, in response to the message, confirming receipt of  
7 the message.

1 56. (CURRENTLY AMENDED) The method as defined in claim 54 further comprising:

2 marking an option in the discover message, by the layer three device, to indicate  
3 that the layer three device is requesting assignment of an address for an interface lacking  
4 connectivity to the ~~at least one~~ server.

1 57. (PREVIOUSLY PRESENTED) The method as defined in claim 54 wherein the layer  
2 three device is an intermediate device operating at the network layer of a communication  
3 protocol stack implemented within a network.

1 58. (PREVIOUSLY PRESENTED) The method as defined in claim 57, wherein the  
2 intermediate device is a router.

1 59. (PREVIOUSLY PRESENTED) The method as defined in claim 54, further  
2 comprising:

3 broadcasting a discover message from the interface lacking connectivity to the  
4 server, the discover message requesting assignment of one or more IP addresses for the  
5 interface lacking connectivity to the server; and

6 verifying that an offer is not received in response to the discover message from  
7 the interface lacking connectivity to the server.

1 60. (PREVIOUSLY PRESENTED) The method as defined in claim 54 wherein the offer  
2 sent by the server includes a subnet mask for use with the interface lacking connectivity  
3 to the server.

1 61. (PREVIOUSLY PRESENTED) The method as defined in claim 54 wherein the offer  
2 sent by the server includes, for each proffered IP address, a corresponding lease time  
3 indicating a life of the respective proffered IP address.

1 62. (PREVIOUSLY PRESENTED) The method as defined in claim 54 wherein the offer  
2 sent by the server includes an identification of a routing protocol to be used by the layer  
3 three device with the interface lacking connectivity to the server.